

Dock Door RFID/BLE Readers



RFID/BLE Solutions

Next Generation Dock Door Portal Reading Solution

The Dock Door Reader solution from Venture Research combines years of in field implementations with the state of the art in RFID and BLE tracking technologies. The unique design eliminates the need for floor mount stanchions and provides the ability to rotate the antennas into the truck, reducing dock to dock cross reads. Together with Venture Research's exclusive sensor technology for material movement monitoring, the Dock Door solution ensures accurate material tracking at the dock door.

High Gain Antennas for Challenging Material

The Dock Door solution from Venture Research incorporates the exclusive antenna array construction with high gain antennas that improves material penetration and dock coverage. The array also allows the RF power required to be turned down yet still retain adequate coverage over the material passing through the dock further reducing cross reads.

POE and WiFi Built in

The Portals are low power enough that they can be powered with POE (only 9 watts) or 12v but for ease of communications can be talked to wirelessly via Wifi. This provides the utmost in connectivity flexibility.

Automatic Sense Triggering to Reduce RF on Time

Built into the Dock Door portals are high performance motion sensors that sense when motion is at the dock and then turns on the RF. In addition, an optional exclusive truck in position sense ensures that RF is not turned on until the truck door is open. In a high count dock environment, these built in features keep the RF off at a dock door until it is needed.

Designed for the Cloud

The Dock Door Portal solution shares the same API (Application Programmers Interface) as all other Venture Research reader products. This simplifies interfacing and by using the built in DB_Delivery feature, can directly feed a cloud based REST interface without the need for middleware.

Optional Stack Light and Annunciator

Along with the extensive RFID and sensing features, an optional tri-color integrated Stack Light and Annunciator can be provided to provide operator feedback.

Product Features

| Features | Benefits |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------|
| Articulated Mounting Arm Construction | Eliminates floor mount implementations and allows antenna rotation |
| High Gain Antenna Array | Provides a read zone from floor level to 84" with tag readability from 1' to 12' in front of antennas |
| Built in Motion Sensors | Turns on RF for reading only when there is activity in the dock area |
| POE or WiFi with 12vDC power | Flexible wiring configuration |
| Venture Research HyTrak reader built in | Fully integrated. No antenna, RF cabling or wiring required |
| Additional USB, CAN and GPIO | Allows additional external stacklights and monitors |
| Exclusive Truck Door Open Sense | Only turns on RF when the truck door is open |
| Master/Slave option | Reduces costs by having only one side of the door requiring the reader |
| Integral SD Storage Card | Allows virtually unlimited storage and application loading capability |

Applications

- Order Ship Confirm
- Order exception management (wrong truck)
- Automated Receiving against ASN
- Productivity tracking
- Improves traffic management
- Critical asset tracking
- Automatic Compliance systems

24x7x365 Proactive Support

Venture Research maintains a world class support organization that can provide round-the-clock assistance. All hardware products of Venture Research contain automatic self diagnosis capabilities, and can be connected to SiteWatch, the Venture Research remote monitoring system, for real time monitoring of system operability and alerting on exceptions. This ensures non-stop operation for critical applications.

Specifications



Dock Reader Electrical Specifications

| | |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Model | DOCK_RDR_M_001 - Master DOCK_RDR_S_001 - Slave |
| RFID Reader | 1Watt (30 dBm) Class 1 Gen2 (ISO 18006c) reader, US (902-928 Mhz) (European frequencies ETSI - 865-868 Mhz/1/2 watt also available) |
| Power | 48 or 56 v POE 10-48 v DC regulated - 10 W |
| RFID Ports | 3 high gain antennas per portal - The Slave contains antennas only and no reader |

Interfacing

| | |
|------------------|--------------------------------------------------------------|
| Ethernet | 10/100 Mbps (POE) |
| WiFi | WiFi (802.11 a/b/g/n), MIMO Antenna Support |
| BLE | Low Energy Bluetooth reading of iBeacon or Eddystone beacons |
| USB | Dual USB A, USB OTG |
| Serial | Console Serial Port with FTDI support |
| CAN BUS | 1 Mbps CAN Bus Interface |
| SD Card | Up to 64 GB Storage |
| I/O | 4 In (Sink or Source) / 8 Out Conditioned |
| Motion Detection | PIR Motion detection dual facing |
| Diagnostics LEDs | RGB Programmable |

Operating System

| | |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Linux Build | Yocto project build(Android 4.x also available) |
| VPN Support | Built in multiple end point VPN embedded secure client(s) |
| Programming | C, C++, Python, Node, Java |
| Cloud Computing | Store and Forward with all filtering/aggregation being performed in the reader. Direct Web Service update capability using HTTP Post |

Warranty

| | |
|-----------------|-----------------------------------------------------|
| Parts and Labor | 1 year, post 1 year maintenance agreement available |
|-----------------|-----------------------------------------------------|

Specifications are subject to change without notice

Mechanical

66" H x 9.5" W x 2" D
High Impact Sleeve

Options

| Mounting | Part Number |
|-------------------------|----------------------------------------|
| Floor Mount | DOCK_OPT_FLOOR |
| Articulated Arm | DOCK_OPT_ARM |
| Conduit Coupler | DOCK_OPT_COUPLER FLEX CONDUIT - 35' |
| Water Proofing - NEMA 4 | DOCK_OPT_NEMA4 DOCK_OPT_FLEX |

| Power | Part Number |
|--------------------|-----------------|
| POE Injector - 48v | DOCK_OPT_POE_48 |
| 24vDC Power Supply | DOCK_OPT_DC_24 |

| Communications | |
|-----------------|-----------------------|
| 4G LTE Module | DOCK_OPT_CELL |
| Carrier Service | DOCK_OPT_CELL_CARRIER |

| Peripherals | |
|-----------------------------------|----------------------|
| External Input (PIR Motion Sense) | DOCK_OPT_EXT_PIR |
| External CAN Bus Stacklight | DOCK_OPT_EXT_STACK |
| Integrated Cap Stacklight | DOCK_OPT_CAP_STACK |
| LIDAR Truck Sense | DOCK_OPT_TRUCK_SENSE |
| LIDAR Directionally Sense | DOCK_OPT_DIRECTION |

| Cabling | |
|-----------------------------------------|-------------------|
| CANBUS Interconnect Cable 35' | DOCK-OPT_CAN_35' |
| Master/Slave RF/GPIO interconnect - 35' | DOCK_OPT_MS_CABLE |
| Serial Interface Cable to USB | DOCK-OPT-USB-SER |

| Operating System | |
|---------------------|----------------------|
| Open Embedded Linux | DOCK-OPT_OS-LINUX |
| Android 4.0 | DOCK-OPT_OS_Android4 |

Notes:

- Cellular requires yearly service contract
- Specify service provider at time of order (AT&T, Verizon, T-Mobile, Sprint, Vodaphone, Kore)
- ETSI/EU - 865-868 MHZ Version available at extra cost